

the invention.

Claim 1 has been amended to incorporate the limitations of Claims 4, 6 and 7 which have now been canceled. Claim 1 now particularly defines the ink receiving layer as containing a binder, a porous inorganic oxide and an aliphatic hydroxycarboxylic acid with more than 2 C wherein the "porous inorganic oxide is colloidal aluminum oxide, colloidal aluminum oxide/hydroxide or pseudo-bohemite and further includes at least one element of the rare earth metal series of the periodic system of the elements with atomic numbers 57 to 71."

Claim 5 has been amended to clarify the formula as $\gamma\text{-Al}_2\text{O}_3$.

Applicant believes that the amendment made to Claim 1 clarifies the Examiner's objection to Claim 11, where it is now clear that the porous inorganic oxide includes at least one element of the rare earth metal series of the periodic system.

Claim 15 has been amended and new Claim 21 added to define the fillers as "inorganic inert particles".

Claim 18 as amended clearly defines an embodiment where an auxiliary layer is coated on top of the ink receiving layer. This auxiliary layer includes either a porous inorganic oxide or an aliphatic hydroxycarboxylic acid with more than 2 C atoms.

Claim 19 has been amended to claim the thickness in " μm ".

Applicant believes that the amendments to the claims are fully supported by the specification as originally filed and do not introduce new matter. Accordingly, all of the Examiner's indefiniteness rejections have been overcome and are respectfully requested that they be withdrawn.

ANTICIPATION REJECTION

Claims 1-3 and 15-18, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,589,277 to Malhotra and under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No.

6,051,106 to Omura. Applicant respectfully disagrees.

It is axiomatic that "[f]or a prior art reference to anticipate in terms of 35 USC § 102, every element of the claimed invention must be identically shown in a single reference." In re Bond, 910 F.2d 831, 832, 15 USPQ 1566, 1567 (Fed.Cir. 1990).

As discussed above, Claim 1 has been amended to particularly define the invention as ``having at least one ink receiving layer''. This layer contains binders, a porous inorganic oxide and an aliphatic hydroxycarboxylic acid with more than 2 C atoms. Unlike both Malhotra and Omura, the coated layer of the invention includes a porous inorganic oxide which is colloidal aluminum oxide, colloidal aluminum oxide/hydroxide or pseudo-bohemite and further includes at least one element of the rare earth metal series of the periodic system of the elements with atomic numbers 57 to 71.

Therefore, neither Malhotra nor Omura contain every element of the present invention and thus are not anticipatory of the claims. Accordingly, the Applicant respectfully requests that the Examiner's anticipation rejections be withdrawn.

OBVIOUSNESS REJECTIONS

Claims 1-9 and 11-20 are rejected under 35 U.S.C. 103(a) as obvious over either U.S. Patent No. 5,589,277 to Malhotra or U.S. Patent No. 6,051,106 to Omura, in view of U.S. Patent No. 6,156,419 to Brugger. The claims also stand rejected as being unpatentable over Brugger in view of Malhotra.

The Examiner cites Malhotra as disclosing a recording sheet with at least one ink receiving layer similar to the invention layer but acknowledges that Malhotra does not ``limit the type of filler pigment that is used in its sheet.'' The Examiner cites Brugger as teaching use of an aluminum oxide/hydroxide from 0.04 to 4.2 mole percent of one or more elements of the rare earth metal series of the periodic system of elements with atomic numbers 57 to 71 relative to Al_2O_3 in an ink jet recording sheet

to provide a recording sheet with high ink absorption rates and excellent image quality. The Examiner's states that it would have been obvious to one of ordinary skill in the art to use the porous aluminum oxide/hydroxide or Brugger in the ink receiving substrate of Malhotra. Applicant respectfully disagrees.

It is well-settled that the mere fact that the prior art could be modified to form the invention would not make that modification obvious unless the prior art suggested the desirability of the modification. In re Laskowski, 10 U.S.P.Q. 2d 1397, 1398 (Fed. Cir. 1989); In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed Cir. 1984). It is submitted that the cited art does not teach or suggest the desirability of modifying the recording sheets of Malhotra which are designed for rapid drying times and include an additive material (i.e. monomeric amino acids, monomeric hydroxy acids and mixtures), a latex binder, and optional antistatic agents, biocides and filler, in view of the secondary reference to Brugger which discloses a porous aluminum oxide/hydroxide.

Further the Brugger reference teaches an ink receiving layer containing only a binder and the porous aluminum oxide/hydroxide. There is no teaching or suggestion in Brugger for the inclusion of an aliphatic hydroxycarboxylic acid with more than 2 C atoms in the ink receiving layer. Thus it would not be obvious to one of ordinary skill in the art to combine the teaching of Malhotra with Brugger. Accordingly, Applicant respectfully requests Examiner's obviousness rejections to be withdrawn.

Claims 1-9 and 11-20 stand rejected as being unpatentable over Omura in view of Brugger. Applicant respectfully disagrees.

Omura is non-analogous art disclosing the production of a cast-coated paper comprising a pigment and water based binder. In fact Omura teaches away from the Brugger reference by specifically stating in the specification at Col. 2 line 34 on that "cast coated papers for ink-jet recording contain as the main pigment component a porous synthetic silica of large specific

area, so that they absorb a great amount of release accelerating material to cause frequent paper break, thereby suffering a great drop in productivity, compared with cast-coated papers using other pigments as their main component." Accordingly, there is no motivation to combine the teaching of Omura with the Brugger reference disclosure of a porous aluminum oxide/hydroxide. Therefore Applicant respectfully requests Examiner to withdraw his obviousness rejections.

Finally, the claims stand rejected as being unpatentable over Brugger in view of Malhotra. Applicant respectfully disagrees. For the reasons stated above there is no motivation to combine the teaching of Brugger with the Malhotra reference. The Brugger reference particularly defines an ink recording layer containing "at least one binder and a porous aluminum oxide/hydroxide" there is no suggestion for combining these components with the "monomeric amino acids, monomeric hydroxy acids or monomeric polycarboxyl compounds" disclosed in Malhotra. Accordingly, Applicant respectfully requests the Examiner's obviousness rejection to be withdrawn.

In view of the above amendments, the indefiniteness rejections and the prior art rejections have been overcome. None of the art disclose the invention as claimed which particularly define an ink recording sheet having at least one layer including a binder; a porous inorganic oxide which is colloidal aluminum oxide, colloidal aluminum oxide/hydroxide or pseudo-bohemite and further includes at least one element of the rare earth metal series of the periodic system of the elements with atomic numbers 57 to 71; and an aliphatic hydroxycarboxylic acid with more than 2 C atoms. This combination of elements is neither taught nor suggested by the cited art.

Applicants submit that this application is now in condition for allowance. A clean copy of the amended claims in compliance with 37 CFR 1.121(c) are also enclosed. No new matter has been introduced by this Amendment. Reconsideration of this application

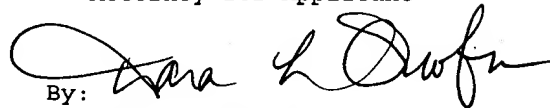


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and allowance of the pending claims are hereby requested,
particularly, Claims 1-9 and 11-20.

Respectfully submitted,

Attorney for Applicant

By: 

Dara L. Onofrio
Reg. No. 34,889
233 Broadway - Suite 2
New York, N.Y. 10279-2799
(212) 791-2950

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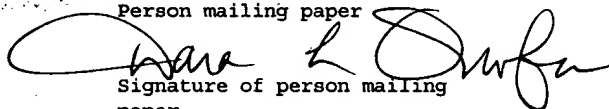
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